

at a rate of more than one foot per year in many regions. Lower aquifer levels can create problems if wells are not deep enough and, as a result, pumps need to be lowered. Aquifer dewatering, which occurs when the water level drops below the aquifer's confining layer, can lead to strata compacting and the permanent loss of storage space within the aquifer. Lower aquifer levels also permit salt water intrusion (water with elevated dissolved solids levels) to move inward from the coast. Monitoring data throughout the 1980s and 1990s suggested that the future viability of the formation was at risk, and the state invoked the Water Use Act of 1967, which authorizes the state to declare the affected region (including fifteen counties) a capacity use area. This problem of overextraction of water in the coastal plain is shared by all the southeastern states in the United States.

Under the final CCPCUA rules, groundwater withdrawals for users pumping more than 100,000 gallons per day (gpd) are to be reduced beginning in 2002 over a three-phase, sixteen-year period. Depending on whether the user is withdrawing water from a Cretaceous aquifer located in the declining water level zone or the salt water intrusion or dewatering zones, users are required to cut back either 10% or 25% relative to an approved base rate in 2002, respectively, at the end of each of the three phases (6 years, 5 years, 5 years), resulting in total reductions of either 30% or 75% by 2018. Since demand may rise over the sixteen-year period, at least some users will be entitled to withdraw even less than 70% or 25% of their demand by 2018. The CCPCUA rules became effective August 1, 2002. As of this writing, users who are required to cut back withdrawals should have completed a 10% or 25% reduction, since phase II began on August 1, 2008.

The Division of Water Resources within NC DENR provides permits to all users who withdraw more than 100,000 gpd. This includes public utilities, industry, agriculture, and other types of users. Intermittent users, defined by the capacity use rules as users who withdraw water fewer than sixty days a year, are required to register for a permit, but are not required to meet the reduction provisions of the CCPCUA rule.

Permits expire within ten years (usually five) and must be renewed. Only permitted users that withdraw groundwater from the Cretaceous aquifer zones are required to cut back withdrawals over time. An approved base rate of withdrawals prior to 2002 is established, and water allocations are determined from that base rate (after calculating the required cutbacks).

About 107 public water utilities (government owned or not-for-profit private utilities) and various small, private systems operate within the fifteen-county CCPCUA, 84 of which withdraw more than 100,000 gpd and currently have CCPCUA permits. Of that number, 35 water utilities are required to cut back groundwater withdrawals. This links to a map of the 107 water utilities in the CCPCUA, identifying the 35 facing mandated cutbacks.

To make up for the reduced withdrawals, communities will need to use surface water, withdraw water from alternative shallower aquifers in the region, purchase groundwater from another community, purchase groundwater withdrawal rights from users reducing their withdrawals below the state-imposed maximum, or increase efficiency. The Neuse and Tar rivers are thought of as the viable surface water supplies for the area although, prior to the